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002/H5

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EPA Region 5 Records Ctr.



237659

Dr. Mark P. Brown  
Senior Vice President  
Blasland Bouck & Lee, Inc.  
174 Union Street Suite 300  
New Bedford, Massachusetts 02740

Dear Dr. Brown:

**SUBJECT:** Response to Blasland Bouck & Lee Comment On Final Remedial Investigation/Focused Feasibility Study Report For the Willow Boulevard/A-Site (Operable Unit 2) of the Allied Paper/Portage Creek/Kalamazoo River Superfund Site, Kalamazoo/Allegan County, Michigan.

This letter acknowledges the Kalamazoo River Study Group's (KRSG) invocation of dispute resolution pursuant to Paragraph 36 of our Administrative Order by Consent (AOC), final order DF0-ERD-91-001. As specified in your letter of January 15, 2004, your dispute is limited to the application of sediment cleanup objectives to soils. This letter attempts to reach agreement on that dispute consistent with the provisions of the AOC. In the interest of resolving the dispute and moving forward, we propose to:

1. Replace certain Remedial Investigation/Focused Feasibility Study (RI/FFS) pages with the enclosed revised pages.
2. Attach your comment letter of January 15, 2004, as Appendix O to the RI/FFS. Your dispute and point of view will become part of the administrative record and will be considered in the course of developing the Proposed Plan.
3. Bring the issue before the Michigan Department of Environmental Quality (MDEQ) Remediation and Redevelopment Division's (RRD) Field Operations Quality Review Team (FOQRT), to determine a RRD position regarding the application of sediment criteria to the floodplain at Operable Unit 2 (OU 2). The FOQRT review will also become part of the administrative record, and will be available for consideration in development of the Proposed Plan.

As I mentioned in our meeting on January 9, 2004, I have already contacted the United States Environmental protection Agency (U.S. EPA) regarding certain KRSG concerns. It is apparent (see enclosed e-mail) that the U.S. EPA shares some of your concern with the application of sediment criteria to the floodplain. As the U.S. EPA will create the Proposed Plan and Record of Decision (ROD) for OU 2, we believe it makes sense to finalize this RI/FFS as-is and await the U.S. EPA's Proposed Plan to see how our respective concerns are addressed. The KRSG, of course, has the option between now and when the Proposed Plan is issued to compile its own technical evaluation and ranking of alternatives to submit for consideration. Further, the KRSG will have an opportunity to comment on the Proposed Plan itself.

That being said, I wish to respond to your letter and offer additional explanation where the text of the RI/FFS may have seemed unclear to you. The MDEQ responses to your general and specific comments follow.

### **General Comments**

#### **1. *The RI/FFS focus on groundwater.***

The notion that there are no findings of risk related to groundwater at OU2 is an exaggeration. The fact that there have been detections of groundwater contaminants (e.g. polychlorinated biphenyl (PCB), barium, cyanide, mercury, zinc, and bis[2-ethylhexyl]phthalate) in excess of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended generic groundwater criteria, soil criteria for the protection of groundwater, and/or generic groundwater surface water interface criteria show that the site represents (1) a release of hazardous substances, (2) a hazard to human health or the environment, or (3) a threat of a release of hazardous substances to the environment. Based on the available data, the MDEQ concludes that hazardous substances in groundwater are reasonably expected to vent to surface water in concentrations that exceed the generic groundwater/surface water interface (GSI) criteria. While a groundwater response action could be required under Part 201, it seems prudent at this time to place GSI compliance wells first to better evaluate the hazard and determine if contaminants are actually being transported to the river.

As you are aware, the RI/FFS is not a decision document. However the RI/FFS is required to consider the long-term uncertainties associated with various remedial actions. Groundwater costs were discussed to establish that (1) there may be additional remedial action necessary in the event contaminants are discharging to the river and that (2) any remedial design should not preclude future groundwater controls. As discussed in the FFS, it may be prudent in early design to evaluate the groundwater issue intensively to determine if there is cost efficiency in including groundwater protection components early. Any RI/FFS that does not objectively evaluate groundwater data or mention potential groundwater costs is incomplete and does not present an accurate statement of site conditions. As you are aware, costs with and without contingent groundwater responses were developed for each alternative. There is flexibility in the FFS that may not have been apparent on first reading of the document.

As written in the Blasland, Bouck, and Lee (BBL) letter of January 31, 2001, our agreements regarding groundwater were made with an understanding of how *recent PCB results* would be handled. Our agreement on PCB data was made irrelevant by other site data. In the RI/FFS, the MDEQ also evaluated BBL's inorganic data, non-PCB organic data, and historic PCB results which show significant exceedences of generic criteria. The data show, and Part 201 requires, that the RI/FFS should discuss *all releases*, and options to address exceedences of criteria. Further, Part 201 specifically establishes that cost can be a factor only in choosing among alternatives that offer adequate protection. Given the data, groundwater control was included in the evaluation because it offers adequate protection, whereas alternatives without groundwater control may not offer adequate protection.

#### **2. *Sediment Cleanup Objectives.***

Application of sediment criteria to the 100-year floodplain in the OU 2 FS is not arbitrary. Your claim that a 100-year floodplain is "submerged as infrequently as once every 100 years" is technically incorrect. The 100-year floodplain, by definition, every year has a one percent chance of being inundated. Thus, the 100-year floodplain is *always* subject to inundation and to

the erosive forces of the Kalamazoo River. The hazards associated with PCB contamination of the floodplain are not limited to aquatic exposures during flood events; hazards are also associated with the transport of contaminated floodplain material to the riverbed, where PCB partitioning, aquatic exposure, and bioaccumulation are likely. We remind you that remedial actions taken to reduce the likelihood of PCB transport associated with one percent flood events would be consistent with the actions taken by members of the KRSG during (1) voluntary interim actions at the A-site, and (2) the King Highway Landfill remedial action. During those response actions, sheet pile was extended to an elevation *two feet above* the 100-year floodplain to protect against flood events, erosion, and resulting transport of contaminants. This sensible precaution was carried forward into the OU3 FS.

From the aerial photographs presented previously by the KRSG, it is apparent that the Kalamazoo River in the vicinity of OU3 is dynamic, with deposition of transient islands and resultant changes in river velocity and erosive forces along the banks. It is indisputable that the nature of a river is to meander in its floodplain; erosion of bank floodplain materials and transport of residual PCB contaminants to the river is only a matter of time. Further, it is a certainty that trees will eventually fall and animals will periodically burrow in the floodplain, disturbing residual contaminated material, making it unstable and more susceptible to transport.

One goal of remedies implemented under Comprehensive Environmental Response, Compensation, and Liability Act, 1980 PL 96-510, is to achieve a high degree of permanence. Under Part 201, remedial actions that significantly and permanently reduce the mobility of contaminants are preferred. The highest degree of permanence, considering eventual transport to the river, is achieved by removal of contaminants to levels protective of aquatic ecosystems. Since excavation in the OU 2 floodplain (relatively small) would occur under any action alternative; there is an opportunity at this operable unit, with minimal additional effort, to virtually *eliminate* risk in the floodplain rather than simply reduce it. In this case, the benefits of achieving the greatest possible degree of permanence out weigh the cost of the minimal additional effort. We are not presuming that the same cost-benefit could be realized on all other areas of the river.

From the site data available the +50/-30 cost estimates in the RI/FFS adequately cover the effort to achieve the sediment criteria in the floodplain.

The footnotes on page 6-8 and 6-9 are intended to make it clear that comparing criteria to post-excavation confirmation samples using an acceptable method of spatial averaging is appropriate. Any lack of clarity on this matter in the FS text does not warrant revision. This detail can be clarified in the Proposed Plan and Record of Decision (ROD).

### **3. An "ecologically-friendly" setback at Willow Boulevard.**

As written in the text, for the purposes of cost estimation, the setback for Alternative 2C was assumed to be 50 feet. If a setback remedy is selected by the U.S. EPA, the setback distance could be evaluated and established with greater precision in remedial design. Consistent with the U.S. EPA's approach on other sites, it is likely the KRSG will be given the opportunity to undertake design and make the appropriate evaluations to ensure the design has a solid basis. If the KRSG believes ecologically friendly setback at Willow Boulevard is not protective or permanent, the MDEQ invites the KRSG to provide an analysis for consideration. It is puzzling that the KRSG would question the "risk management tradeoffs" of the alternative, considering the KRSG proposed a similar alternative for other areas of the river.

The MDEQ agrees with your opinion that Alternative 2C does not provide the greatest risk reduction of all alternatives, but the degree of risk reduction is not the only criteria by which a remedy is selected. The MDEQ's ranking was based on (1) our evaluation of the nine criteria established by the National Contingency Plan and (2) the fact that groundwater issues have been complicated by sheet pile at other OUs. It is not a requirement that the KRSG or even the U.S. EPA agree with our FS ranking. There will be additional evaluation in development of the Proposed Plan.

Regarding evaluation of the "community acceptance" criteria, it is rare that community comment to remedial alternatives is available before a Proposed Plan. Historic public comment is available in the case of OU 2; the U.S. EPA and the MDEQ believe utilization of the comments is reasonable. The MDEQ acknowledges sentiment expressed during the official comment period may differ from what has been documented to date. As the preferences of the Lakeside Neighborhood Association are not specifically known, their input will be specifically solicited during Proposed Plan. While immediate neighbors and members of particular neighborhood associations have a stake in the remedy, so does the downstream community; the opinion of *all* stakeholders is important to consider. The relative ranking provided in the RI/FS is MDEQ's and is preliminary, considering all criteria cannot be fully evaluated until the public comment period is complete. For this reason, the U.S. EPA requested that the MDEQ not identify a preferred alternative in the FFS.

#### **4. Evaluations of short-term effectiveness and implementability of remedial alternatives**

The MDEQ invites the KRSG to submit its analysis of potential short term risks for evaluation, though the MDEQ determined (and U.S. EPA concurred) that in the previous KRSG iteration of the RI/FFS, descriptions of short term risk were overstated. The MDEQ believes that engineering controls can be used to substantially reduce short term risks.

#### **5. Regulations and requirements.**

The physical separation requirement does not apply to "new disposal areas" and the Willow Boulevard A-Site is not a new disposal area as clearly stated in the third sentence of the paragraph. The enclosed pages provide clarification. The point of the paragraph was to establish that design must address leachate if it is coming out of the landfill.

The MDEQ emphasizes that sheet pile alone is not equivalent to a Part 115, Solid Waste Management, of the NREPA cap. At the Willow Boulevard A-Site and King Highway Landfill, use of sheet pile is a perfectly good idea because there are earthen berms that provide additional physical separation between the river and the waste. Using sheet pile alone to separate waste from the river is inadequate. The MDEQ landfill engineers recommend "pushing the waste as far back from the river as possible" at Willow Boulevard A-Site.

Regarding any perceived lack of clarity regarding the relevance of Part 31, Water Resources Protection, of the NREPA, Part 201 Rule 716(5) specifies procedures for demonstrating compliance with Part 31. The procedures accommodate the differences between venting groundwater and permitted discharge to surface water. Also, Part 201 Rule 716 (6) requires that the MDEQ identify water quality standards for hazardous substances developed under Part 31 (generic GSI criteria).

**6. Estimated costs for Alternative 3 – Removal and Off-Site Disposal.**

The cost evaluated is within the + 50/-30 estimate range, which is typical of a feasibility study. Costs previously provided by the KRSG were overestimated. Because the cost of Alternative 3 is the most costly, it is already the least preferred in that regard. Refining the cost would have little impact on the relative ranking of alternatives using the cost criterion.

**7. References used to support MDEQ's assessment of conditions at the OU and community acceptance of each alternative.**

The MDEQ is treating the BBL request as if it was made under the Freedom of Information Act, and has included the requested references (enclosed). In the interest of settling the dispute, there will be no bill for photocopying or staff time to respond to the request.

**Specific Comments**

1. *In Section 1.2, the second sentence inaccurately describes Georgia-Pacific's ownership of the Mill. The Kalamazoo Paper Company owned and operated the Mill until 1967, not Georgia-Pacific (sic).*

The MDEQ acknowledges that Georgia-Pacific did not own and operate the mill until 1967. The sentence in question does not use the term "ownership" and is meant only to describe which facilities, in terms easily understood by the public, used the OU for disposal. Further, the sentence is inclusive of dates beyond 1967, when Georgia-Pacific *did* own and operate the mill. The transfer of the site from the Kalamazoo Paper Company is adequately described in Section 1.2.1.

2. *In Section 1.2.1, the last four sentences in this paragraph grossly misstate the function of the temporary cover placed over the Willow Boulevard Site. The temporary cover was constructed after an interim measure (i.e., removal of residuals from the River) was implemented. At the time of the removal action in 2000, it was anticipated that a final remedial alternative would be selected expeditiously, and Georgia-Pacific arranged for a local contractor to perform maintenance on the temporary cover. However, after three years, a final remedy has not been selected, and the temporary cover system, which was not designed as a long-term measure, is showing only some signs of insignificant deterioration. We suggest these sentences be removed as they provide no benefit to the analysis of alternatives. This issue is repeated in Section 4.1.1.*

The existing cover is described in the RI/FFS as a "temporary measure" and an "interim cover," intended "to stabilize the surface and reduce possible erosion". It is not clear why the KRSG believes this description is a misstatement. The KRSG's previous version of the RI/FFS (Page 3-2), stated only that sand was placed; there wasn't *any* description of intended function. Deterioration of the interim cover has led to erosion of paper residuals into the river, a condition that is hardly insignificant. The MDEQ text was written to describe current conditions and to establish that the temporary cover will not be adequate over the long term.

3. *Under Section 1.4 – Enforcement History, the last paragraph is misleading and suggests the KRSG and BBL have not been responsive to MDEQ's concerns. This paragraph does not include a full description of the long history of the development of the RI/FFS report as illustrated in Figure 1. Absent from this text is any recognition that a final draft of the RI/FFS was developed in 1999 followed by a draft of the Proposed Plan, or that the MDEQ*

*approved the use of a presumptive remedy approach only to decide after two drafts of the RI/FFS had been prepared to abandon this approach. There is no mention of the meeting on January 23, 2001 where the MDEQ and the KRSG met and discussed 125 comments, most of which were to expand the document to include information described in Technical Memorandum 9. The MDEQ makes no mention of the letter dated November 1, 2001, where the remaining 25 minor comments were addressed and additional information provided to the MDEQ. In addition, in 2001 we were told by MDEQ's project manager that the remaining changes were very minor, in fact "piddly" was the term used to describe them. The unresolved comments, if any, do not begin to account for the extensive changes made by the MDEQ in this most recent draft.*

The paragraph was intended to state that the reason the MDEQ is completing the RI/FFS is because the previous version of the RI/FFS was rejected, because of the reasons identified in our letter of November 19, 2001. The last KRSG version was unresponsive to MDEQ's concerns. We believe inclusion of BBL's Figure 1 provides a reasonable account of site history. As an aside, the presumptive remedy approach was abandoned because the U.S. EPA determined it was not appropriate on this Operable Unit. There is no presumptive remedy for a saturated landfill, placed in a river and its floodplain.

4. *Starting on Page 2-30, the MDEQ states that certain Aroclors are identified. This is not a completely accurate characterization since PCBs were not actually identified as comprising a particular Aroclor, but rather were merely quantified as that Aroclor.*

This comment is puzzling, as the language in RI Section 2.10 is nearly identical to Response 3 in BBL's letter of November 1, 2001. BBL is apparently taking issue with its own text.

5. *The statement in the last sentence of the second paragraph on page 3-6 is a non sequitur and does not belong in a section discussing site hydrogeology.*

This statement was admittedly a poor way of saying that the conductivities of the residuals at the Operable Unit are not the same as the conductivities of residuals in the downstream impoundments, where mixing has occurred. The MDEQ was attempting to establish that BBL's conductivity estimates at the OU cannot be applied to any other portion of the Kalamazoo River Superfund site. A change has been made.

6. *In Section 4.2.7, the fourth paragraph, the MDEQ implies that validation of historical data was attempted but could not be completed as prescribed in the quality assurance/quality control (QC) Review of Historical Studies Data Plan. This is incorrect. The prescribed method was followed, but the data could not be validated due to the lack of available QC data for the historic results.*

This comment is not warranted as the fourth paragraph is nearly identical to text written by BBL in its previous version of the RI/FFS. We are left to acknowledge that BBL now has concerns with "implications" that may or may not be present in its own suggested text.

7. *In the last sentence on page 5-2, the statement that "...generic GSI values are intended to ensure that contaminants in groundwater are not discharged to surface water" is not accurate.*

The text paraphrases the title of Part 201 Rule 716, which is "Cleanup criteria for groundwater based on protection of surface water resources from hazardous substances in venting

groundwater." While it is better to state that the intent of GSI criteria is to protect against discharge of *unacceptable concentrations* of contaminants, we note that this distinction is not made in the title of the rule itself. It is clear that insignificant discharges of contaminants are not precluded because GSI criteria are not zero values. A change to the text was made.

8. *Portions of the RI report inappropriately include discussions specifying portions of the remedy. For example, in Section 5.3 there are references to studies and evaluations that would be part of a Hydrogeologic Monitoring Program, including evaluations of zinc, mercury, and leachate; (sic).*

The text does not specify parts of a remedy. Rather, this section simply states that additional monitoring could help resolve some of the pending questions regarding groundwater contamination. While the existing dataset may, at this time, be insufficient to justify a groundwater remedy, the dataset is also not sufficient to conclude that groundwater poses an acceptable risk. Further, the MDEQ text is actually less stringent than text previously suggested by BBL. For example, in the March 2001 version of the RI Section 4 and Section 5, BBL made statements such as, "a long-term groundwater monitoring program will be implemented as part of any selected alternative that entails leaving the residuals in place." Again, BBL is apparently taking issue with statements that it previously deemed appropriate.

9. *In Section 6.2.1.3 and several others, the MDEQ implies that PCB concentrations greater than 12 parts per quadrillion (ppq) for wildlife or 2.6 ppq for humans present a risk. This is not an accurate assessment, as these values assume there is no risk at these levels, they do not imply that there is risk if PCB levels are greater than these concentrations.*

The 0.00012 ug/L in the RI text is the "Wildlife value," the maximum ambient water concentration of a substance at which adverse effects are not likely to result in population-level impacts to mammalian and avian wildlife populations from lifetime exposure. The 0.000026 ug/L value is the "Human non-cancer value," the maximum ambient water concentration of a substance at which adverse non-cancer effects are not likely to occur in the human population from lifetime exposure through either drinking the water, consuming fish from the water, and conducting water-related recreation activities. The implication that any higher concentration may result in adverse effects is reasonable. The MDEQ emphasizes that remedial response objectives for this Operable Unit do not include specific surface water concentrations. If concentration-specific remedial response objectives (RROs) at this OU are set, they should be set according to the Baseline Ecological Risk Assessment; surface water concentrations should not exceed 0.00197 ug/L to protect mink. As the enclosed references establish, evidence of mink has been observed near OU3. A change to the text was made.

10. *In Section 6.2.1.5, The MDEQ suggests that the information gathered during the RI is "...insufficient to definitively determine whether groundwater/leachate poses an unacceptable risk...." This is an overstatement because with reasonable assumptions, as those considered in the King Highway Landfill-OU Risk Assessment, there would be no risk associated with groundwater/leachate exposure. In the early versions of the Willow Boulevard/A-Site RI/FFS, BBL calculated a site-specific GSI using the MDEQ guidance; however, the agency did not accept this attempt to illustrate that a risk did not exist using reasonable assumptions.*

The King Highway risk assessment did not evaluate GSI criteria (which were established with reasonable assumptions), and did not look at potential GSI impacts to wildlife. Considering the differences between King Highway Landfill and the Willow/A-Site OU, application of the King Highway Landfill risk assessment to OU2 is not appropriate. However, the MDEQ notes one relevant statement from the King Highway risk assessment:

"...the presence of elevated levels of PCB in residuals is recognized, especially in terms of potential bioaccumulation/food chain effects. The greatest potential for ecological exposure and significant risk arises from the potential food chain effects on organisms."

*11. In Section 6.2.1.5 there is a discussion of a groundwater/leachate monitoring plan. This is not appropriate for a section discussing site risk.*

The MDEQ is again puzzled by the KRSG making such a comment. Language suggested by BBL in its last version of the RI/FFS included "development of a long term groundwater monitoring network to ensure there is no migration of PCB from leachate or groundwater." This comment represents the fourth instance in which BBL has questioned its own language.

*12. In Section 7.2.2, description of Alternative 2, there are several sub-alternatives (e.g., On-Site Consolidation of Select Residuals) where sediment containing PCB concentrations of 6.5 to 8.1 milligram per kilogram will be removed. This is inconsistent with the RRO for sediment. Additionally discussions of removal suggest that at any location where PCB concentrations exceed the criteria, the area will be re-excavated. This approach does not consider the use of spatial averaging as discussed in general comment #2, above.*

With little additional effort (and consistent with a +50/-30 estimate) removal of materials triggered by exceedences of the terrestrial criteria can probably achieve sediment criteria, where appropriate. Use of appropriate methods of spatial averaging as a tool to determine adequacy of cleanup is assumed.

*13. Under Alternative 4 – Compliance with applicable or relevant and appropriate requirements (ARARs), the MDEQ states that Part 31 establishes state cleanup criteria to be used while "remediating rivers, creeks, and floodplain areas." This is not accurate and overstates the scope of Part 31.*

We agree on this point; such language, previously provided by BBL in other versions of the RI/FFS, had been removed by the MDEQ from all other sections of the document. Leaving the inappropriate language here was an oversight and a change has been made.

*14. It is not clear why a discussion of Toxic Substances Control Act (TSCA) as an ARAR is only included in the analysis of Alternative 4.*

TSCA is specifically discussed in the analyses under Alternative 1 ((Page 7-4), Alternative 2 (Page 7-12), and Alternative 3 (Page 7-32). If the hard copy version you received does not include these discussions, please let us know.

*15. The Weighting of Various Alternatives in Table 7-4 produces several counterintuitive results that suggest revision of the comparative analysis is warranted. For example, Alternative 3 (Complete Removal) is rated higher than three of the consolidation alternatives, and rated*

*lower than only Alternative 2C, which is quite similar to the lesser rated consolidation alternatives.*

Perhaps BBL is reading Table 7-4 incorrectly, or has not reviewed the supporting pairwise comparison pages (see Appendix N). Looking at the pairwise analysis by criteria, Alternative 3 is rated lowest in terms of cost, implementability, and higher than only "no action" in terms of short term effectiveness. This is intuitive. Alternative 3 is clearly the most protective, has the most permanence, and is most likely to get the state and community acceptance. In terms of ARARs, such as Part 301 and Part 303, all action alternatives may be restricted in some degree because of floodplain construction constraints. While overall ranking may seem counterintuitive to BBL, when the ranking is broken down according to criteria, the basis for the overall ranking is clear.

*16. Further site investigations for the King Mill pipe, residential soil sampling, and groundwater should not be specified in the RI/FFS for the WB/A-Site OU.*

These unknowns must be resolved in design, as they could impact the scope of the remedial action.

We trust our revisions, our proposal to attach your comments as Appendix O to the RI/FFS, and our commitment to clarify the application of sediment criteria with the FOQRT is responsive to your dispute. The MDEQ now considers the RI/FFS for OU 3 a final document.

If you have any questions regarding anything in this letter, please contact Mr. Keith Krawczyk, Project Manager, Specialized Sampling Unit, Superfund Section, at 517-373-4103.

Sincerely,



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517-373-6808

Enclosures

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